

NASA

Module 5: Canada Responding to Change

LEARNING FACILITATOR'S MANUAL



**Distance
Learning**

Alberta
EDUCATION

Note

This Social Studies Learning Facilitator's Manual contains answers to teacher-assessed assignments and the final test; therefore, it should be kept secure by the teacher. Students should not have access to these assignments or the final tests until they are assigned in a supervised situation. The answers should be stored securely by the teacher at all times.

Social Studies 9
Learning Facilitator's Manual
Module 5
Canada Responding to Change
Alberta Distance Learning Centre
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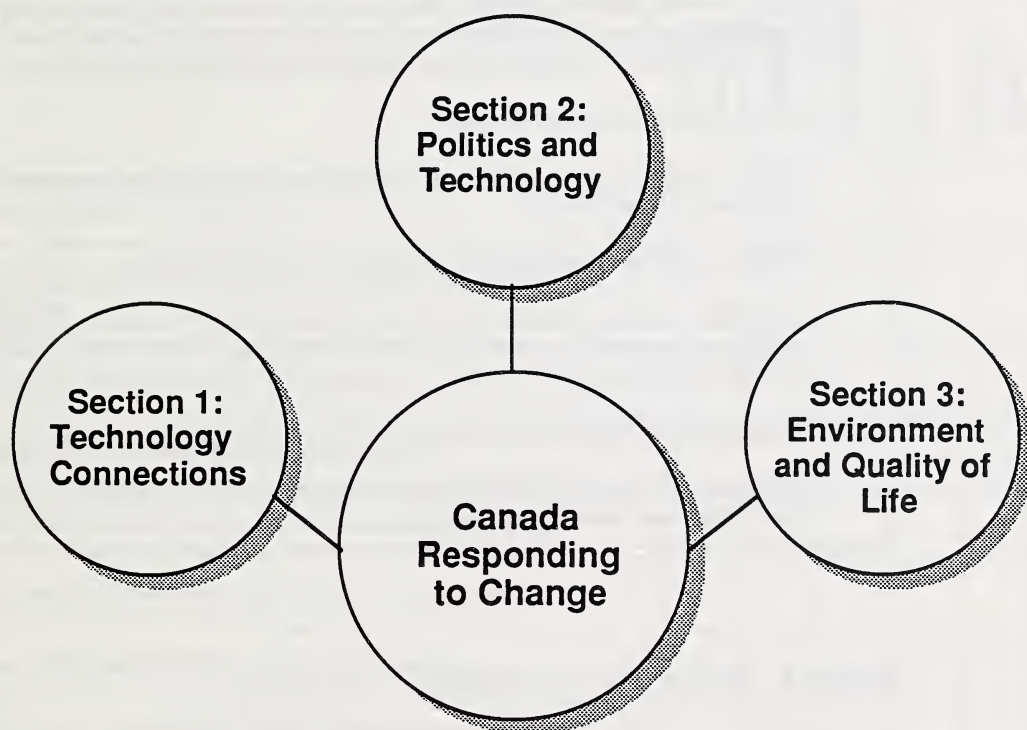
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Module 5 – Canada Responding to Change: Overview

The focus of this module will be on technological change and its effect on the quality of life of Canadians. The module addresses a number of issues and concepts that focus on economic growth and technological change in a Canadian context. The activities and strategies incorporated are devised to help students make informed choices about the concepts and issues.



Evaluation

The evaluation of this module will be based on three assignments.

Section 1 Assignment	40%
Section 2 Assignment	30%
Section 3 Assignment	30%
	<hr/>
TOTAL	100%

Teaching Suggestions

This module includes a number of graphic organizers (e.g., charts) to assist the students in organizing and recording information. Graphic organizers help students to better structure new vocabulary, identify and classify major relationships of concepts, and assimilate and analyse information. They are an effective visual reference and can be useful for learning. A number of learning exercises ask for personal responses from the student. As a result, there are no right or wrong answers; however, these exercises should be completed as they are important for the understanding of other associated learning exercises and activities. The students should therefore be encouraged to complete these activities as best they can.

Here are a few more teaching suggestions:

- Keep a display or scrapbook of news articles connecting the role of government with technological development.
- Follow stories about the impact of technology on our environment.
- If possible, tour a museum displaying the technology used by Alberta's pioneers to make students aware that technology itself is nothing new. What is new is the highly sophisticated technology of today.
- Have students bring in examples of early Alberta technology from their homes.
- Bring one or two older members of your community into the classroom to talk about how things were done in their youth.

Section 1: Technology Connections

Key Concepts:

- technology
- work
- change

Understanding the concepts related to technological change is very critical in learning about how our quality of life is being affected and how Canada is responding to change.

Students should recognize that technology plays a vital role in their everyday lives and that the impact is far-reaching.

Section 1: Activity 1

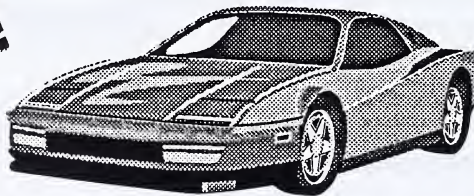
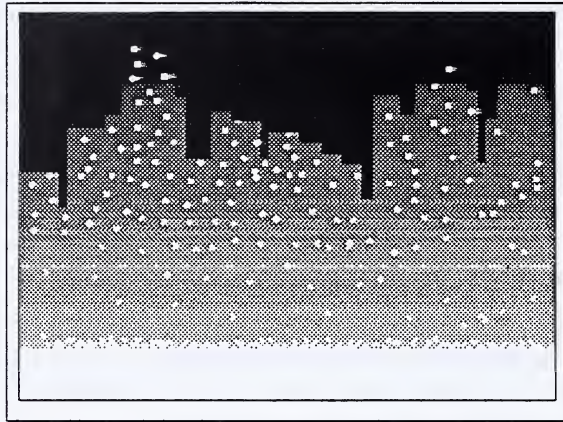
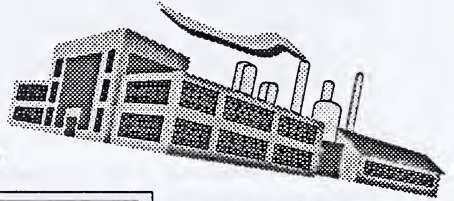
This first activity is a questionnaire. Its purpose is to allow you to gauge some of your opinions about **technology**. There are no right or wrong answers. You should answer each statement that follows based on your knowledge, your opinions, and your personal feelings. Beside each statement, place a check mark in the response column that **best** describes how you feel about that statement.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
The development of technology has been a positive influence on the quality of life of Canadians.					
Canadians should have no role in deciding the rate of growth of technology.					
Technology has changed the way people work.					
Individuals can influence technological change.					
Government should not play a role in technological change.					
Technology has had a negative impact on our environment.					
A loss of jobs can be directly related to technology.					
There are far more advantages than disadvantages to technological change.					
Technology should be encouraged only in areas of medical advances.					
The growth of industrialization and technology should not be limited.					

Answers will vary as these are personal responses. There are no right or wrong answers in this activity.

Section 1: Activity 2

1. Examine the collection of pictures that follows; each one deals with technology and change. Then, in the space that comes after them, explain your reactions to four of the pictures. Be sure to identify clearly the ones you've chosen to write about.



Reactions to each photograph will vary. Look for thoughtful explanations.

2. A **generalization** is a statement or conclusion that applies to a wide range of people or things. It is a general idea, statement, principle, or rule.

Based upon your viewing of the pictures and your personal reactions, make a minimum of four generalizations about technology. One has been done for you.

Changing technology makes our daily living more convenient.

The generalizations are based on the students' personal reactions to the photographs. As a result, the generalizations will vary. The following are some examples of what you might expect.

- *Technology has allowed people to do things, (such as travel) much more easily and quickly than before.*
- *Technology is affecting some traditional societies and their way of life.*
- *Technology has polluted our environment.*
- *Because of technology, more people are living in cities.*
- *Technology has improved medical care.*
- *Technology has improved communications among people.*

Section 1: Activity 3

1. Compare the homes of the pioneer settlers with your more modern home.

Answers will vary. The pioneer homes were much smaller, usually having one room. They did not have amenities like running water, electricity, bathrooms, air conditioning, or indoor heating.

2. What examples of technology can you identify that were used by the prairie settlers?

The settlers used simple tools to construct their buildings. They had to use the available resources of the area and combine them with their ingenuity. Alternatives had to be found and used, such as in the case of the doors and windows.

3. How would the jobs done by this technology be accomplished today?

Modern equipment and tools would be used to build the home today. More wood would be used. Materials would be brought to the site. Students may elaborate substantially on such differences.

Section 1: Activity 4

1. In the space provided, brainstorm by listing as many aspects, details, or characteristics as you can think of associated with the term *technology*. In other words, how would you define or explain this term to someone who may never have heard or seen it before?

The answers to the brainstorming list will vary.

2. For practice, add in and/or change any information you wish for this sample concept map.

In this learning exercise, refer to the thought web and check for additional information or changes made by the students. See that they understand the ideas of the thought web or concept map.

3. Challenge time! In the space provided take the information you compiled in question 1 based on the theme of *technology* and construct a concept map of your own.

Answers may vary. Verify that students have used the thought-web (concept-map) format with all the joining clusters and connections.

4. Using your compiled list and concept map, write a paragraph that defines, in your own words, the term *technology*.

The paragraph should outline and reflect the students' understanding of the concept of technology. While there is no correct answer for this question, you should check to see that students have thought about technology and have provided their personal definitions.

Section 1: Activity 5

1. Before you begin using your new textbook, *Canadians Responding to Change*, you should ask yourself the following three questions. Jot down a few answers.
 - a. What is my purpose in doing this unit of study?
 - b. What do I hope to learn in this unit of study?
 - c. What do I already know about this topic?

Answers will vary for questions a. to c.

2. In the space provided, write down some of the things that struck you as you surveyed the first three chapters of your text.

Answers will vary for this question. Be sure answers reflect the chapters' content.

- Based on your survey of the first three chapters, write down as many questions as you can think of about the topic of technology and change. You should be able to come up with a minimum of ten questions. As you are progressing through the modules, you may want to add to your list. After you've more thoroughly researched the material, you will be coming back to answer these questions.

In this learning exercise, students are required to write a minimum of ten questions about the topic of technology and change. These are research-inquiry questions that the students would like to see answered. Encourage the students to generate as many questions as they would like to write. The students will return to these research questions later. Answers will, therefore, vary; however, you should check to see that the exercise has been completed.

Section 1: Activity 6

- What role or significance does work have in the lives of people? Think of your family and your own life.

Work has a very important role in the lives of people. It determines the standard of living and quality of life of people. Work establishes our wants, needs, and identities.

- Do you agree with this statement from page 2 of *Canadians Responding to Change*?

The way you may think about work today makes you completely different from your parents or your grandparents. Their notions about the kinds of jobs they might have were probably quite different than yours.¹

Explain your reasons.

Answers will vary. Check to see that students have supported their responses.

- Examine the chart "How Jobs Have Changed" on page 2 of *Canadians Responding to Change*. Explain the main changes and trends in the job categories during the period of 1893 to 1986. Support your answer with data from the chart.

Trends:

- The major industry in 1893 was agriculture. From this date, however, there is a steady decline.*
- There have been increases in the areas of manufacturing, printing, trade, communication, and retail trade. These industries took the place of agriculture, especially manufacturing.*

Students may make other observations. Check to see that they have supported their answers with data from the chart.

¹ Reidmore Books Inc. for the quotation from *Canadians Responding to Change*, page 2. Reprinted by permission of Reidmore Books Inc.

4. If you had to identify the one factor that has most affected our country's economy and the career choices of Canadians, what would it be? Explain your answer.

The best response to this question is probably technology. Students may, however, indicate a different answer. In either case, check to see that they have supported their answers to the question.

5. In three or four sentences, explain how technology can have an impact, both positively and negatively, on people's quality of life and standard of living.

Technology affects our life-style both positively and negatively. It provides people with a standard of living, and in many ways it has improved our quality of life. For example, our lives have generally been made easier and more convenient. Technology has also made it possible for people to have more leisure time. Students may include more information in their answers. Check students' reasoning as to why they indicated their examples as being positive or negative.

Section 1: Activity 7

1. In order to provide a focus for your study, answer, in your head, questions 1 through 3 on page 5 of the text.

Textbook question 1:

The two people involved in the story are a grandfather and his grandson. The grandfather took his grandson into the woods in order to pass down traditional beliefs about their culture.

Textbook question 2:

The grandfather came to realize that the world he remembered and was brought up in has changed greatly. Values, wants, and needs have changed due to technology. The grandson learned very little because his expectations and background were different from those of his grandfather.

Textbook question 3:

Answers may vary.

2. Do either question a or b.
- Imagine that you are the grandfather in the story. Write a paragraph describing how you felt at the start of the story and another describing your feelings at the end. Use hints from the story to support your writing.
 - Imagine that you are the grandson. Write two paragraphs describing how you felt at the start of the story and at the end. Use hints from the story to support your writing.

Students have a choice as to which writing assignment they would like to do. Check to see that they have used hints from the story to support their writing.

Section 1: Activity 8

- Using the reading and any other source(s) of your choice (such as your learning facilitator) complete the chart that follows by comparing life in 1950 to life in 1990 and how it will be in 2050. On the chart identify characteristics or aspects particular to these time periods. You should also list any changes that may have taken place during these years. Be sure to give the chart an appropriate title.

The following are some possible answers for the chart. Check to see that students have given the chart an appropriate title. One possible example might be "Comparisons: Past, Present, and Future."

	Home	Food	Appliances	School
1950	<ul style="list-style-type: none"> • simpler design • generally smaller • less use of plastics, etc. 	<ul style="list-style-type: none"> • more natural • less "junk-food" • not as many convenience foods 	<ul style="list-style-type: none"> • basic • human handling still required by most 	<ul style="list-style-type: none"> • more basic curriculum • fewer options and programs
1990	<ul style="list-style-type: none"> • larger in size • more complicated designs • use of new building materials • more energy efficient 	<ul style="list-style-type: none"> • more convenience foods • more availability of ethnic foods e.g., Italian • more health consciousness 	<ul style="list-style-type: none"> • complex • self-monitoring 	<ul style="list-style-type: none"> • computers large in size • enriched curriculum with many options and programs
2050	<ul style="list-style-type: none"> • many conveniences built in • possibly built under water or in the air • more energy efficient 	<ul style="list-style-type: none"> • pills • dried foods (add water) • even more convenient 	<ul style="list-style-type: none"> • more sophisticated • voice commanded 	<ul style="list-style-type: none"> • far more use of computers • possibly more home-based "plug in computers" • more subjects, options, and programs

¹ Reidmore Books Inc. for the chart from *Canadians Responding to Change*, p. 11. Reprinted by permission of Reidmore Books Inc.

2. Of the three scenarios, or periods, which do you consider to be the best? Give reasons.

Answers will vary, but check to see if students have supported their responses.

Section 1: Activity 9

1. In your own words, summarize in a paragraph or two the main ideas of the first chapter of *Canadians Responding to Change*.

In this exercise students are required to summarize the main ideas of Chapter 1. In their paragraphs the students should indicate that work has changed significantly due to technology. It has affected both our standard of living and quality of life. Students should also make some reference to the fact that Canadians are responding to technology in a number of different ways, and that as a country we are helping to shape the technologies of the future.

2. Was there anything in the textbook's summary that you did not include in your own summary? If so, you may want to revise (add or delete information) your summary at this time.

Check to see what information was changed as a result of the students' reading the "summary" and comparing it to their own summary paragraphs in question 1.

3. Answer question 2 in the "Questions" section on page 11 of your text.

There were more farmers in 1950 because there was less machinery to help the farmers accomplish their tasks. As more machines entered into the agricultural industry, fewer farmers were needed. Two industries that have changed in the past forty years are manufacturing and communication. Two jobs that have generally disappeared are those of blacksmiths and hucksters. Two industries that have recently started are those built around computers and courier services.

4. Now answer question 1 in the "Problems" section on page 11 of your text. Use the "T-organizer" that follows to make lists of your likes and dislikes.

Likes	Dislikes

Answers will vary. See that students have considered their responses carefully.

Section 1: Activity 10

1. List all the examples of technology you can identify in the pictures.

The answers will vary. Some possible responses are compact discs, computers, electronic equipment, oil pumps, fax machines, automobiles, etc.

2. Read the introduction to chapter 2 and the section titled “What is Technology?” (pages 13 to 15).
 - a. In your own words **paraphrase** the text’s definition (or explanation) of the term *technology*.

Technology consists of everything from a basic tool to something as complicated as a computer. It is used to accomplish specific tasks and, generally, to produce other items. Technology is purposeful, has a specific system associated with it, and can be found in a number of different situations and activities.

- b. Compare the definition of technology as presented in your text with your personal definition in Activity 4 (question 4). Are there similarities and differences between the two definitions? If so, what are they?

Answers will vary. Check to see that the students have identified similarities and differences between the textbook’s definition and their own definitions given earlier.

- c. (1) What hypothesis can you now make as to when technology actually began?

Answers may vary but students should indicate something to the effect that technology has been around since humankind's beginning, although very simple in nature.

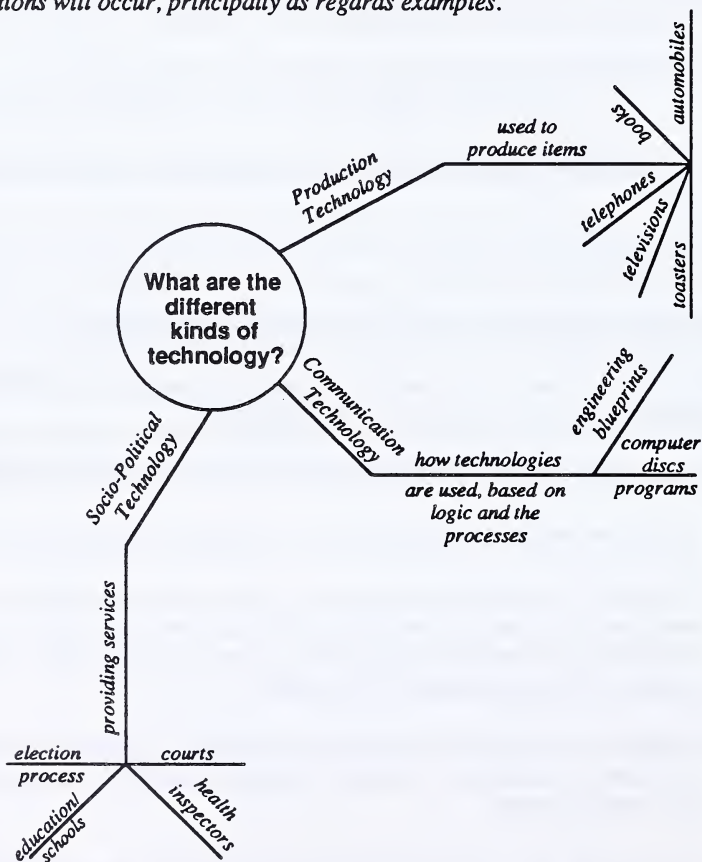
- (2) Has your new knowledge changed your answer from the one you gave earlier? Explain.

Answers will vary. Check explanations.

Section 1: Activity 11

In the space provided, construct a circle chart (similar to the preceding example), and record information about the different kinds of technology. Remember to use guidelines from the sample chart to help you in completing this one.

The circle chart should resemble the one shown here and should contain the same information. Of course variations will occur, principally as regards examples.



Section 1: Activity 12

1. a. What do you suppose the authors mean on page 17 of the text when they state that “technology is a double-edged sword”?

The statement means that with the good there will also be some bad. Technology has brought some aspects that are less positive.

- b. Do you agree with their statement? Explain.

Answer will vary. Check explanations.

2. Based on what you may already know about the oil industry and the use of petroleum products and of the evolution of the computer, develop a hypothesis about how these two aspects of technology have changed the way humans live their lives. Your hypothesis should be recorded in the “Information Data Chart” following question 3.

Answers may vary. The hypothesis should attempt to indicate how the development of the petroleum industry and the computer have changed the way we live. This answer will appear in the chart supplied for question 3.

3. As you gather information from your reading, record it in the “Information Data Chart” that follows.

Information Data Chart

Technological Changes	My Hypothesis: _____ _____ _____	
	Oil	Computers
	Concluding Statement: _____ _____	Concluding Statement: _____ _____

Check for the completion of the "Information Data Chart." Information included may vary.

- The last step to complete the "Information Data Chart" is to arrive at a conclusion. Develop two concluding statements based on your gathered information. These should be written at the bottom of your chart.

The concluding statements will vary in both cases; however, students should indicate that both the computer and the technological uses of oil have significantly changed our life-styles.

5. Review the hypothesis that you developed at the beginning of the learning activity.
 - a. How close was your hypothesis to the actual development of these two technological aspects?
 - b. How do you explain the differences and similarities between them?

Answers to a. and b. will vary. Check to see that the students attempt to explain what may have accounted for the differences and similarities between the hypothesis and the actual development of the two technological developments.

Section 1: Activity 13

1. Based on your reading, choose five to seven terms or phrases that clearly exemplify the main ideas and concepts of chapter 2. Provide reasons for your choices.

[illegible]

Check to see that students have identified between five and seven terms or phrases that clearly exemplify the main ideas and concepts of chapter 2. The actual terms or phrases will vary, but check for an explanation of the choices.

2. Read question 2 in the “Questions” section of page 24 of your text; then answer the following:

- a. List five other examples of technology that you use every day.

Answers will vary. Typical possibilities are such things as these:

- can opener
- escalator
- vacuum cleaner
- television
- record player

- b. Now write your brief history of one. Be sure to include the impact it has had on your own life.

The answers to the second part of the question will depend on the students, but check for an explanation of how the examples of technology they have chosen have had an impact on their life-styles.

3. Next, answer question 1 in the “Possibilities” section of page 24 of the text.

Answers will vary. Possible answers to look for are such things as these:

- increased use of computers
- satellite connections
- more home study
- greater use of visual forms of technology such as compact videos

4. Finally, answer question 2 in the “Possibilities” section of page 24 of the text. If you are working alone, ignore the suggestion that you do this with a classmate.

Answers will vary. Check to see that students have predicted where the technology is going and what the consequences are for society. Students may also have included as part of their answer a time line based on the prediction.

Section 1: Follow-up Activities

Extra Help

1. Many of the activities in Section 1 have suggested that technology helps people in any society to better satisfy, or meet, their basic needs and wants. To help you acquire an even better understanding of this concept, complete the following.
 - a. Identify between five and ten examples of technology that help you to meet your basic needs in life. Provide an explanation beside each example.

There are many possible answers. The following examples may be used as a guide:

Needs & Technology	Explanation
<i>heating system</i> <i>plumbing</i> <i>refrigeration</i> <i>medical equipment</i> <i>automobiles</i> <i>electricity</i>	<i>Check for an explanation for each example provided.</i>

- b. Repeat the same exercise; however, this second time identify examples of technology that help you to meet your wants. Remember to provide your explanations.

There are many possible answers. The following examples of wants may be used as a guide:

Wants & Technology	Explanation
<i>stereo systems</i> <i>sports cars</i> <i>camcorders</i> <i>Walkmans</i> <i>satellite television</i>	<i>Check for an explanation for each example provided.</i>

- c. In your opinion, have these technological developments helped you and Canadian society to better meet basic needs and wants? Explain your answer.

Answers will vary. Check to see that students have explained their positions.

2. Complete the concept-review crossword puzzle that follows. All of the terms are from the first section of Module 5.

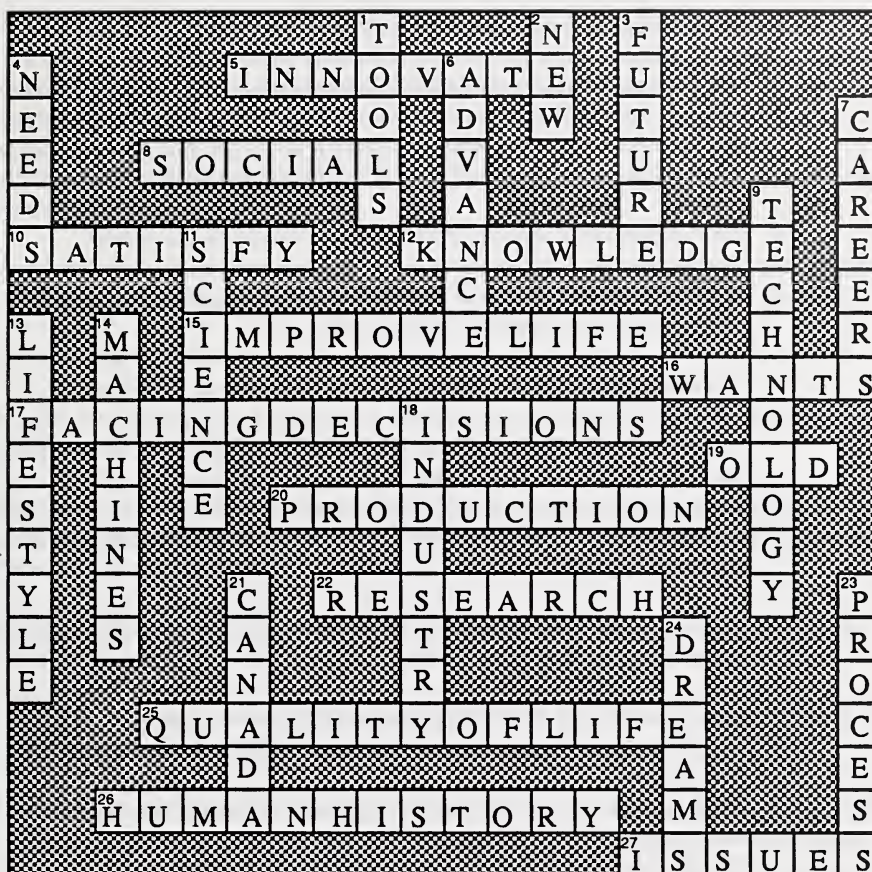
Clues

Across

5. to introduce something new or different
8. having to do with human beings in a group
10. to meet or fulfil a desire
12. a range of information that a person has based on study, experience, and observation
15. to make one's existence better
16. things that are desired, but are not necessary to survive
17. confronting choices
19. not new; of the past
20. the act of creating or manufacturing something
22. a careful study of something with the purpose of finding or proving facts
25. satisfaction taken in a particular way of living
26. a record of past facts and events
27. subjects of concern that must be considered, debated, and resolved

Down

1. instruments that are used by humans to accomplish tasks
2. a state of being recently made, built, grown, or thought of
3. a period in time that is still to come or yet to happen
4. things that are required in order to survive
6. to go forward and or improve
7. occupations or jobs
9. all the tools used to provide whatever is necessary for human life and comfort
11. a branch of knowledge that involves observation and experimentation
13. an individual's, or a society's, way of life
14. apparatuses that apply mechanical power and have several parts with specific functions
18. all forms of business dealing with the production and trading of goods and services
21. the second largest country by land area in the world
23. a method or particular type of system; a course of action or series of stages
24. fantasies, ideals, or aspirations that a person imagines or wishes to achieve



Enrichment

Do one or both of the exercises that follow.

1. The hope of all inventors is that their innovations will be used and valued by people and that they will have a noticeable impact on society. Some inventions are valued more than others; the impact they have on society can also vary.

The reading that follows, entitled "Wheels," will introduce you to a technological innovation that had a tremendous impact on the lives of the people. Sit back, read, and enjoy! Then answer the questions that follow the reading.

- a. How did Eenie's invention have an impact on society?

The innovation of the wheel had a great impact on society. It allowed people to move around far more easily. The invention of the wheel introduced the concept of mass production and big business. It also provided employment for the people. Overall, the impact was far-reaching.

- b. How do you know that this innovation was valued by the people?

It is clear that the wheel was valued by people because they bought the invention in great numbers over an extended period of time.

- c. Did the invention solve problems, create them, or both? Explain.

The invention brought about the problems of unemployment in some areas, price fixing, an over reliance on machines, a shortage of qualified workers in other areas and an energy shortage. On the other hand, the invention solved many problems other than just in the area of transportation. The extra competition provided new choices for consumers and the reduction of prices.

- d. What effect do you suppose this invention will have in the long run for society as a whole? (Don't forget its impact on the environment).

Answers will vary. The probable answer is that the wheel will continue to affect people's standard of living and quality of life in both positive and negative ways.

- e. There are a number of forms of writing that can be used to express ideas to readers. You have just finished reading one such literary form, namely, the short story. In this particular situation, the short story format was extremely effective.

Using the story that you have just read as a model, retell the development and impact of another invention on society being as imaginative as you can.

Remember, your short story should contain the following elements:

- an interesting introduction
- an informative body
- a concise conclusion that suits your theme
- a point of view (Who is telling the story?)

The answers will vary. Ensure that students' short stories contain an interesting introduction, and informative body full of detail, a concise conclusion, a point of view, and a specific tense. Students should have fun with this exercise.

2. Technology has had a tremendous effect on the workplace and opportunities available for Canadians. It has, for example, created a situation where some occupations have become obsolete or are no longer required. On the other hand, technological change has created new job opportunities that previously did not exist.

Bearing this in mind, answer question 2 in the “Possibilities” section on page 12 of your text. Use your imagination.

Answers will vary. Look for a name for the new job of the future and a detailed description.

Section 1: Assignment

1. In Section 1 you completed activities that required you to focus on a number of images having to do with technology and to look in particular at life on the Prairies.

Your assignment is to create a collage that depicts changes in our society as a result of technology. You may, for example, choose to depict both the positive and negative effects of technological developments.

Another possibility is to trace Canadian society from the past to the present and on to the future through a visual timeline.

You may wish to focus on one specific aspect such as the production of goods and show how technology has had an impact on this process.

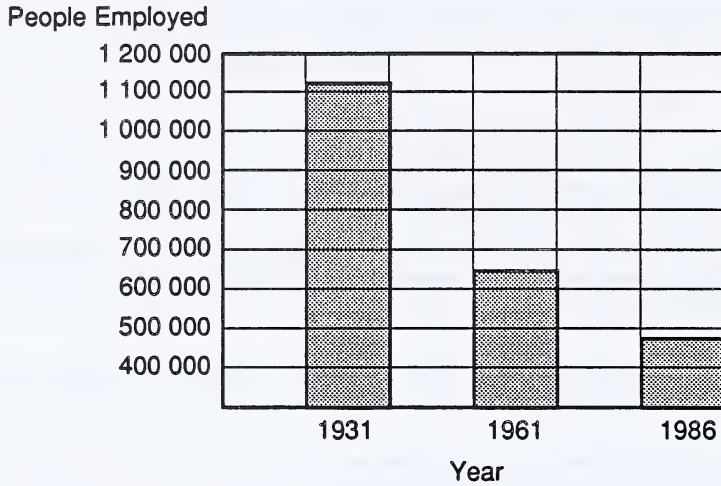
Your collage may be completed on the sheet provided in your Assignment Booklet or, unless you are faxing your work in, you may choose to do the assignment on a larger sheet of paper. If you choose the latter, be sure to include it with your Assignment Booklet with all the necessary identification. Use pictures from magazines or newspapers for your collage. If this proves difficult, feel free to draw your own.

This is a collage project. Using visual clippings from magazines or any other print material, students are to depict changes in our society as a result of technology. Students without access to print material may do their own drawings. The depiction may be positive, negative, or both. Allow the latitude to be as creative as students wish. The layout design should be left up to the students.

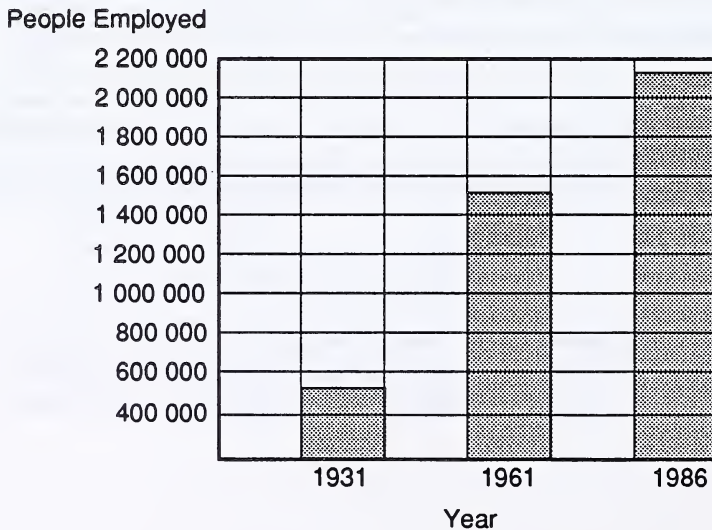
2. In order to complete this assignment, you will need to refer to the chart entitled "How Jobs Have Changed" on page 2 of *Canadians Responding to Change*.

Using the data for the time periods of 1931, 1961, and 1986, make two bar graphs showing the changes in the numbers of people employed in these two areas:

a. Agriculture



b. Manufacturing



- c. Of the two methods used to present the information, the chart on page 2 of your text and your bar graph, which in your opinion is the most effective? Explain why.

Answers will vary. Expect students to suggest that the bar graph is a more effective method to convey the information when compared to the table used in the textbook. The bar graph more vividly depicts the trends, while the graph does not convey this information as quickly. Mark for explanations.

3. a. Think about the ways in which you participate in technology? Would you be happy living without the technology you now have? In a paragraph or two, make a case for living in the past, present, or future. Be sure to support your answer.¹

Answers and formats will vary. The student should use creativity in their futuristic scenario. Mark for support and creativity.

- b. What thing or place do you think would most amaze your great-great-great grandparents about Canada and the world of today?

Imagine that your great-great-great grandparents have been transported in time to the present. In the role of your great-great-great grandfather or grandmother, write a diary entry describing what it is that you see and feel.²

Be sure that the proper body elements of a diary entry are present in your description.

Answers will vary. Check that the student has assumed the role and has taken into account the correct audience, the correct format, and the correct purpose for writing. The writing can be evaluated for structure, form, content, mechanics, and creativity.

Section 2: Politics and Technology

Key Concepts:

- politics
- technology
- government

This section examines the ways in which governments become involved with and support technology. Students should understand that governments affect technology at all levels of research and development, resulting in changes to quality of life.

^{1,2} Reidmore Books Inc. for the adaptation of a question from *Canadians Responding to Change*, p. 24. Reprinted by permission of Reidmore Books Inc.

Teaching Suggestions

- This section contains a practice exercise in the writing of a letter to the prime minister. This sort of activity can be extended to include real letters sent to a local MP or MLA about an issue of concern dealing with government and technology – perhaps an environmental issue.
- There is much in the news these days about environmental concerns and what the government is (or should be) doing about them. Have students look for and bring in relevant articles to discuss. Make a display.
- Have a debate (formal or informal) over an environmental issue (e.g., “Resolved that the government should tax companies that pollute.”).

Section 2: Activity 1

1. What images come to your mind when you hear the terms “government” and “politics”? List your thoughts in the spaces provided.

Answers will vary. The list might include such things as these:

- *control*
- *laws*
- *police*
- *services*
- *taxes*
- *elections*
- *political parties*

2. Why do you think these images come to mind? Tell where you think you get these ideas and perceptions about politics.

Answers for this question will vary. Most likely students will indicate that these are some of the things they have heard or seen about the topic.

3. Complete the first two columns of the chart that follows. Try to identify as much as you can! Remember, your topic is Politics, Government, and Technology. Don't worry about whether you have everything correct.

[illegible]

Answers will vary. Check to see that the first two columns of the chart have been completed.

4. Now show your understanding of the concepts in what you've just read by completing the fill-in-the-blank exercise that follows. The terms or phrases to complete each statement can be found in the reading.

Answers will vary slightly but should mean the same as what follows.

- a. Canada is a democracy, which means that the government is controlled by the citizens through elections.
- b. Many people think that politics and government are the same thing.
- c. Politics means anything related to making decisions that would promote the best interests of the public.
- d. Almost everything in Canada has something to do with government.
- e. Any government decision that is made regarding any type of activity is called a political decision.
- f. Political decisions are often complex because there are many sides to an issue.
- g. Politics, or government, can have an impact on technology.
- h. Political decisions about technology can be controversial and do affect the citizens of our country.
- i. The three levels of government in Canada are federal, provincial, and local.

Each of these levels plays a role in technological change and has an impact on the lives of Canadians.

- j. The first job of any government is to promote the welfare of its citizens.¹

5. Why would the different levels of the Canadian system of government have different areas of authority?

The governments of Canada have different areas of authority to better meet the needs and interests of such a large country. For example, those issues that have to do with all Canadians are better dealt with by one central government, namely the federal level. If a need is specific to a particular city, this should be dealt with by the local government. Due to the large size of Canada and the varying needs of the regions, we have provincial governments.

¹ Reidmore Books Inc. for the statements (some adapted) from *Canadians Responding to Change*, pages 25-27. Reprinted by permission of Reidmore Books Inc.

6. a. Why must Canadian governments try to find a balance between the immediate needs of Canadian citizens and their possible future needs.

Government must find a balance to stay in office yet still make decisions about the future. Most people want immediate results and are impatient. Therefore, governments have short-term and long-term goals.

- b. Do you agree with the situation? Explain.

Answers will vary. Check for an explanation.

7. You are the prime minister of Canada. A citizen has sent to your office a letter outlining some of her concerns about some of the decisions made by your government regarding some technological developments. As the leader of the Canadian government write a letter to the citizen explaining in your own words why governing our nation is at times difficult. Be sure to discuss some of the reasons why government must be involved in the development of technology. Remember, you must persuade this citizen that you are promoting her personal welfare. Be sure to sign your name at the end of the letter.

Office of the Prime Minister
East Block, Parliament Buildings
Ottawa, Ontario

Dear Ms. _____:

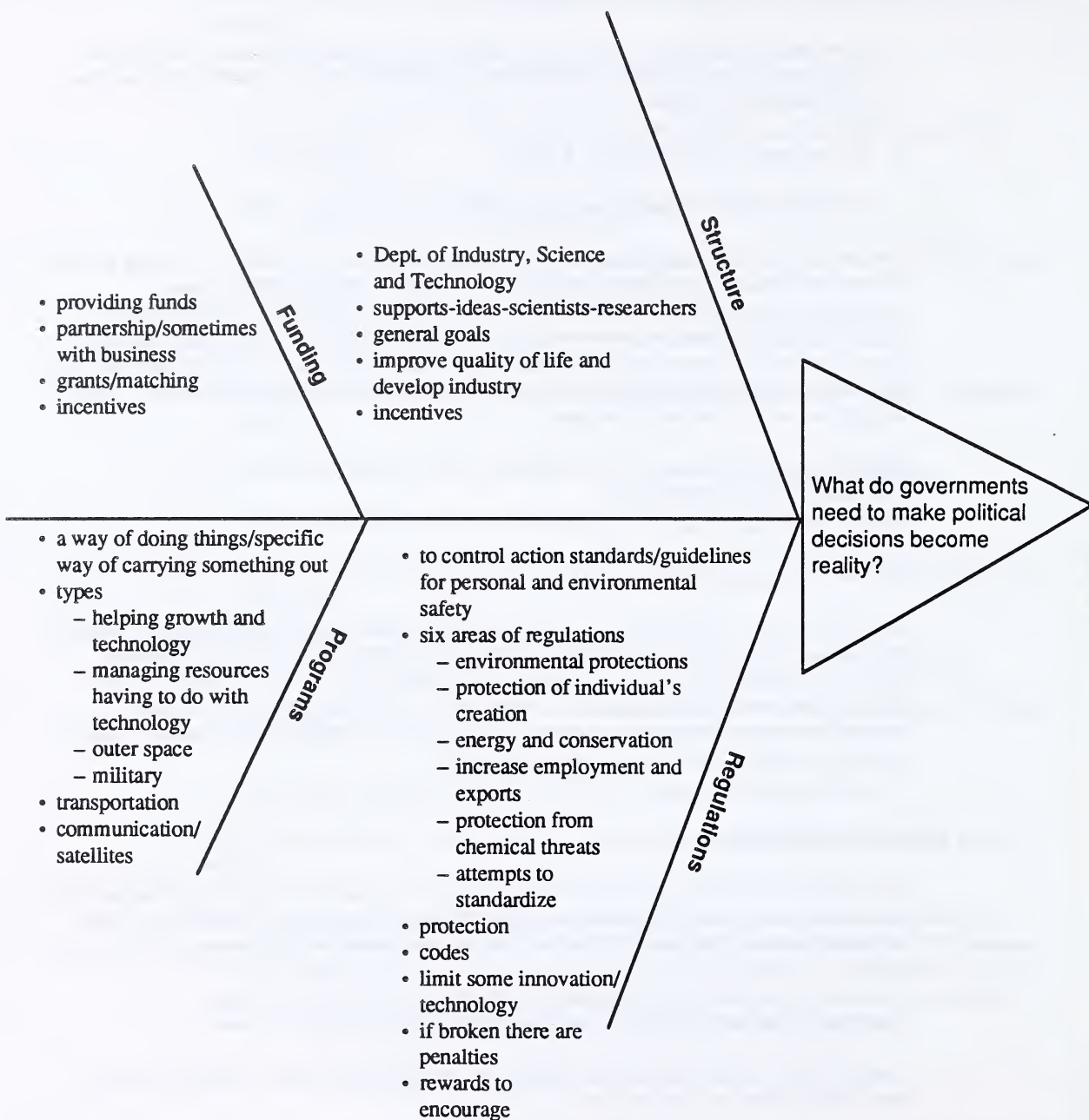
Answers will vary. In this learning exercise the student should explain that governing Canada is difficult due to our large size and diverse needs and interests. As a result, making political decisions is sometimes a problem and bound to be controversial. Ensure that students have addressed the concerns of the citizen in a return letter. As prime minister, students must persuade the citizen that her best interests are being taken care of by her government. Check to see that the writing is in a letter format and is signed.

Section 2: Activity 2

1. Now organize your ideas by drawing a fishbone of your own and recording the information from your reading in the chart. The question, to go in the head of the fishbone, is the same as in the sample on the preceding page. Remember to modify the fishbone to suit your specific details and needs.

A work area has been provided for you. Happy fishing!

The following is a basic outline of the information for the fishbone chart. Students may have more details recorded on their charts.



2. Review the information that you've recorded in your fishbone chart. Now, based on the information and knowledge that you've acquired, develop a concluding statement about what governments need in order to convert political decisions involving technology into action.

Answers will vary, but students should come to realize that governments play a very large role in the development of technology. Specifically, they need structure, funding, regulations, and programs. Involvement will vary in degree and manner.

Section 2: Activity 3:

1. Can you think of any examples where the Canadian government has been involved in, or influenced the development of, technology? List as many examples as you can in the space that follows.

Answers will vary. Some possibilities of involvement are as follows:

- *scientific research*
- *medical research*
- *launching of satellites*
- *technical education*

2. Now answer questions 1 to 3 on page 37 of your text.

Textbook question 1:

The Canadarm is attached to the space shuttle and allows NASA astronauts to launch, retrieve, service, and repair satellites while orbiting in space. The Canadarm resembles (and functions very much like) an arm, and is controlled by a master computer. This piece of technology cost approximately \$100 billion to develop.

Textbook question 2:

The Canadian government became involved through the National Research Council. It was looking for a project that would more deeply involve Canada in space technology. By participating in the venture, Canada was guaranteed the sale of four "arms" as well as space parts. The country would also gain solid reputation, and, as a result, new opportunities would present themselves in the future.

Textbook question 3:

The answers will vary. Here are some possible answers:

- *space stations*
- *satellites*
- *probes into outer space*

3. Now select any three of the innovations discussed in the reading and complete, in point form, the chart that follows.

Some Areas of Government Influence on Technology				
Area of Innovation/ Name of Invention/ Research	General Facts or Information about Innovation (Description, cost, use, etc.)	Benefits for people as a result of innovation	Benefits for Canada as a whole	Possible long-term benefits for people

Check for the completion of the chart. Students should have identified three specific examples of innovations, general facts, and the benefits brought about as a result of these developments.

4. One method that can be used to measure a country's commitment to the advancement of technology is to determine the amount actually spent on research and development. Answer the following questions based on the readings on pages 35 to 40 of your text and the table "Research and Development Spending" on page 35.

- a. What actual measure is used to gauge a country's commitment to new technology?

Gross Domestic Product (GDP) is used.

- b. In what year(s) was the greatest amount spent on research and development?

1986 – \$509 million

- c. (1) What was the smallest amount of money ever spent on research and development during the period of 1971 and 1986?

\$97 290 million

- (2) In what year did this occur?

1971

- d. Supporting scientific and technological research can be complex and costly for governments. Why do governments continue to support and encourage technological developments? Explain your answer.

Governments continue to encourage technology and research in order to be included among the leading countries of the world. The benefits of being a leading country will include having a stronger economy and a better standard of living for the country's citizens.

5. Review the information that you have gathered in Activity 3. What conclusions can you draw from the data about relationship between government and technological development? Indicate a few in the space provided.

Answers will vary. The conclusions that the students arrive at should indicate that governments support technological development in a number of ways. The support is in the form of structure, funding, regulations, and encouragement.

Section 2: Activity 4

1. Complete the following acrostic by carefully reading each definition or statement from *Canadians Responding to Change* and then filling in the blanks with the appropriate words. What word or phrase do you end up with when you read all the letters that appear in the circles?

- a. G O V E R N M E N T
- b. D E M O C R A C Y
- c. V O T E
- d. E V E R Y T H I N G
- e. F E D E R A L
- f. D I F F E R E N T
- g. P R O M O T E
- h. R E A L I T Y
- i. F U N D I N G
- j. S T A N D A R D S
- k. I N V E S T S
- l. R E S E A R C H
- m. S U P P O R T
- n. D E C I S I O N S

1. a. Many people think that politics and government are the same thing.
- b. Canada is a democracy, which means that the government is controlled by the citizens through elections.
- c. Responsibilities of citizens to vote and to monitor the government are also very important in a democracy.
- d. Almost everything in Canada has something to do with the government.
- e. Governments in Canada, at the federal, provincial, and local levels are very interested in technological change and its impact on Canadians' well-being.
- f. The different levels of government have different areas of authority.
- g. The first job of any government is to promote the welfare of its citizens.
- h. Governments need to make political decisions become reality.
- i. Governments encourage new technologies and research by providing funding.
- j. Government standards help to ensure that drugs and foods we purchase in Canada are safe.

- k. Canada invests a large amount of money in research, but we do not invest as much as many other countries.
- l. Scientific and technological research is complex and expensive.
- m. Canadian governments support technology in a variety of ways.
- n. Governments affect technology at all levels when they make political decisions about technology and support technology through funding and encouragements.

The phrase spelled out is "Government is us."¹

2. Answer question 3 in the "Questions" section of page 40 of your text.

Technology is making the world seem smaller through the use of innovations. As a result of technological innovation in transportation and communication boundaries now are limitless and open to all. We can, for example, travel thousands of kilometres in a matter of hours. A news event that takes place in a place like Drumheller, Alberta, is communicated around the world in a matter of minutes, if not seconds. These innovations have created what has been termed a global village. Because much of the current communications and transportation technology is new, the world was not so "small" for students' parents as it is for them. Students may give specific examples of this.

3. Now answer question 3 in the "Problems" section of page 40 of your text.

Answers will vary. Check for an explanations.

4. Next, answer question 2 in the "Possibilities" section of page 40 of your text.

Answers will vary. Here are a few possibilities:

- *senate reform*
 - *a new status for Quebec*
 - *a North American government consisting of Canada, Mexico, and the United States. Check to see that for each change identified the student has also suggested the possible impact.*
5. You have covered a good deal of material in Section 2. Review the exercises that you completed for Activities 1 to 3. Refer back to the chart in Activity 1, question 3. Now is the time for you to complete the third column titled "Know You Learned?" In this third column identify what it is that you have actually learned in this section. Don't forget to compare and contrast your last column with the first two.

Answers will vary. Check for the completion of the third column of the chart.

¹ Reidmore Books Inc. for the excerpts from *Canadians Responding to Change*, pages 25-40. Reprinted by permission of Reidmore Books Inc.

Section 2: Follow-up Activities

Extra Help

1. Read the statements that follow, taken (and sometimes altered) from *Canadians Responding to Change*, and indicate whether they are true or false by putting a T or F beside each one.

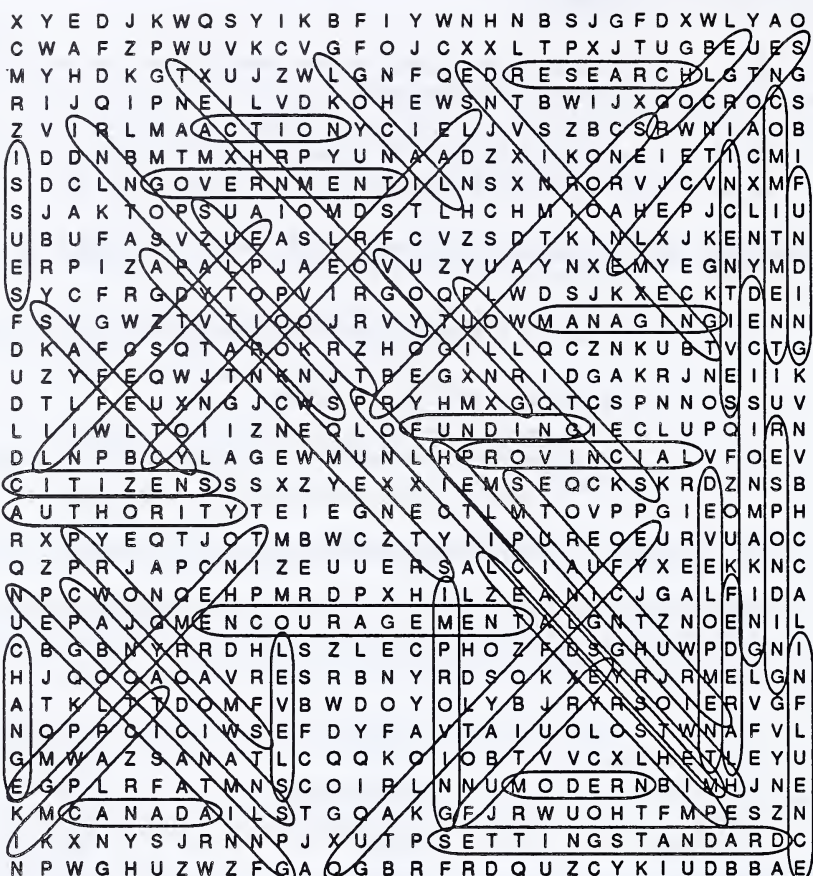
- T a. Almost everything in Canada has something to do with the government.
- F b. Most people believe that politics and government are not really the same thing.
- F c. Political decisions are usually not complex.
- T d. Often there are many sides to an issue.
- T e. Political decisions affect the citizen of any country.
- F f. There are four levels of government in Canada.
- T g. Each level of Canadian government plays a role in technological change.
- T h. The first job of any government is to promote the welfare of its citizens.
- F i. All of the levels of Canadian government have the same areas of authority.
- F j. The decisions made by government are always popular.
- T k. A government can commit funding for expensive, long-term research projects, believing they will eventually benefit the people.
- T l. People usually want to see immediate results from scientific and technological research.
- F m. Technology is not normally very attractive to governments.
- T n. Every decision implies an action.
- T o. Basically all governments need four things to act: (1) structure, (2) funding, (3) regulations, and (4) programs.
- T p. The reason why there are rules, regulations, and standards is to control the ways in which inventions and technology are used and the rate at which they are implemented.
- T q. Governments encourage new technologies and research by providing funding.

- F r. Governments do not often take actions to improve the standard of living of their citizens.
- T s. One measure of a country's commitment to new technology is the amount it spends on research and development.
- T t. Although there are problems that come with technology, governments in Canada will continue to support its advancement.
- T u. Encouragement is one of the most important aspects of the government's influence on technology.
- T v. Technology and scientific research can influence the quality of life for people.
- T w. Technology is making the world seem smaller.
- F x. Scientists and researchers are not encouraged to use their imaginations or to be innovative.
- T y. Technological innovations have brought variety to people's lives.¹

2. Following you will find a list of terms. See how many of these you can find in the word-search puzzle that follows the list. Remember, they may be placed horizontally, vertically, or diagonally, backwards or forwards. Have a good search!

action	funding	negotiating
advancements	future	political system
authority	government	politics
Canada	helping growth	programs
Canadians	impact	provincial
change	improving	quality of life
citizens	incentives	regulations
commitment	influence	research
controversial	innovations	responding
decision making	issues	role
development	leadership	safety
elections	levels	setting standard
employment	life-style	structure
encouragement	local	support
environment	managing	technology
federal	modern	voting

¹ Reidmore Books Inc. for the statements (some adapted) from *Canadians Responding to Change*, chapter 3. Reprinted by permission of Reidmore Books Inc.



Enrichment

Teaching Suggestions

Students may need considerable help with the setting up, administering, and analysing of their surveys.

Do one or both of the following:

1. a. Surveys and questionnaires are effective ways in which to assess the viewpoints and opinions that individuals may possess. In this Enrichment activity you will be developing a survey on opinions having to do with the continuing advancement of technology, changes brought about by innovations, government or political involvement, and any other related issues you feel are important (e.g., environmental issues).

Once your survey has been developed, your next step is actually to conduct (or carry out) the survey. The survey should be conducted in your local community. Be sure that a good cross-section of different groups of people (e.g., business people, workers, consumers, government officials, educators, and so on) are polled.

Here are a few samples questions you might use in your survey.

- Do you think that technological development is harming or helping working people in our society?
- Should the government play a more active role in technological development or a less active one?

Come up with eight to ten further questions; then carry out your survey. You will probably want to construct a chart something like this one:

Questions	Responses											
	Yes				No				Don't Know			

HINT: To keep your survey workable, ask only questions that can be answered with a yes or no.

Answers will vary. Check that students have a sound understanding of what can be achieved with a survey.

- b. Once you have conducted the survey, organize and analyse the collected information. With your collected data, develop a few conclusions and recommendations.

Answers will depend on the results of the survey. Check to see that the information has been organized and analysed in a logical fashion. The conclusions and recommendations will also depend on the survey results.

2. Another very effective method that can be used to assess the opinions of an individual is to conduct an interview.

You have been given the opportunity to interview the prime minister of Canada. Your interview will be only about ten minutes in duration. Due to the brief period of time allotted for the interview, you must develop a set of ten questions that you will be directing toward the prime minister. The questions that you ask of the prime minister should focus on the government's role and influence on technological change. You should also be addressing the issue of the extent to which government should encourage and support technological growth in Canada.

Your questions should be concise and to the point. Avoid questions that can be answered with a "yes" or "no." A space for your interview questions has been provided.

Answers will vary. Check to see that the ten questions are well written and concise, and that they address the issue. Ensure that the interview questions cannot be answered with a mere yes or no.

Section 2: Assignment

1. The material presented in Section 2 has outlined the variety of ways in which the Canadian government has supported technology. Through encouragement, governments can influence much that has to do with technological advancement, ultimately affecting the quality of life of Canadians.

Bearing this in mind, answer the following questions:

- a. What do you think is needed for humans to enjoy the highest quality of life? Name five of these things.

Answers will vary. Here are a few possibilities:

- *health*
- *a good income*
- *vacations*
- *leisure time*
- *automobile*
- *arts*

- b. How does research affect the future of your quality of life? Explain your answer in a short paragraph.¹

With the further development of research and technology, these aspects of quality of life will improve even more. For example, with medical research, cures are being found, and individuals are living much longer. As a result of technological innovations that make our lives easier, humans have more time to devote to leisure. In the response, ensure that students have fully explained their answers.

2. As you may already know, government affects technology at all levels. It must make a wide range of political decisions – some popular, some not so popular. Despite the problems that technology creates, it is commonly felt that technological developments must be encouraged and supported because they provide some solutions to the problems that Canadian society faces.

You are the cabinet minister for the Department of State for Science and Technology. Prepare a speech that you will present in the House of Commons. In your speech, you will be addressing this question:

- **To what extent should the Canadian government be involved in and influence technological changes?**

Be sure to support your statements and position. Your speech must clearly outline your government's position on the topic of technology.

Answers will vary. In this assignment, ensure that the role has been assumed, audience taken into account, proper format used, and purpose clearly shown.

Role – cabinet minister

Audience – members of House of Commons

Format – speech

Purpose – Extent of government involvement in technology

The assignment can be evaluated for form, structure, content, mechanics and creativity.

¹ Reidmore Books Inc. for the adaptation of questions from *Canadians Responding to Change*, p. 40. Reprinted by permission of Reidmore Books Inc.

Section 3: Environment and Quality of Life

Key Concepts:

- technology
- environment
- future
- quality of life

This section examines how technological developments have had both positive and negative effects on the environment and quality of life. Students should understand the impact of technological developments and the ways available to us to reverse harmful effects and save the environment.

Teaching Suggestions

- Suggestions made for Section 2 apply here as well.
- Try to generate discussions on values and attitudes. Analyse positions on environmental issues to determine underlying values.
- Role playing can be used extensively in this section (e.g., environmentalists vs. loggers). Be sure to bring out both positions honestly and sympathetically.
- Try to get your class actively involved in conservation projects. Stress that action is the ultimate objective of an understanding of environmental problems.

Section 3: Activity 1

1. a. Reread the excerpt and, in your own words, explain the meaning of the passage.

Answers will vary. See the students understand the meaning.

- b. Do you agree or disagree with the last two statements? Explain.

Answers will vary. Check for clear explanations.

2. a. Think of examples where technology has changed our environment. List a few along with their effects.

Answers will vary. The following are some possible negative examples:

- smoke stacks
- gas emissions from automobiles
- spilling of oil
- dumping of chemicals and hazardous wastes.

Check to see that the effects have also been identified.

- b. What examples do you know of where efforts are being made to save the environment?

Answers will vary. There are numerous examples of efforts being made to save the environment. Some of the following are such examples:

- *placing devices on smoke stacks to filter the smoke*
- *neighbourhood clean-up campaigns*
- *reforestation projects*
- *using sources of energy other than fossil fuels*

3. a. Focus on the photographs from pages 96 to 107 of your text. Express in your own words the reactions you experience when viewing each photograph. A chart has been provided for you to fill in.

Photograph	Reactions

Answers here will vary. Check that students have expressed their personal reactions to the nine photographs from pages 96 to 107 of the text.

- b. Overall, were your personal reactions positive or negative? Try to explain why.

Answers vary. Ensure that an explanation has been provided.

4. Refer to each of the preceding speakers and answer the following questions:

- a. Beside each of the speakers listed in the chart that follows, identify what you believe that speaker's values are (or what motivates his or her actions).

Answers may vary somewhat, but should resemble what follows.

Speaker	Value(s)
1	<ul style="list-style-type: none"> • <i>convenience in life-style</i> • <i>employment, at any cost</i> • <i>resource development to stimulate economic activity</i> • <i>higher standard of living</i>
2	<ul style="list-style-type: none"> • <i>big business/free enterprise</i> • <i>materialism</i> • <i>development of environment without limits</i>
3	<ul style="list-style-type: none"> • <i>convenience in life-style</i> • <i>leisure time and quality of life</i>
4	<ul style="list-style-type: none"> • <i>nature</i> • <i>environmentalism/conservation</i>
5	<ul style="list-style-type: none"> • <i>weighing of needs of both sides</i> • <i>decision making</i> • <i>welfare of people</i> • <i>environmental concerns</i> • <i>compromise</i>

- b. Which speakers would appear to have opposing values when it comes to developing the environment?

Speakers 2 and 4 seem most opposed.

- c. Of the five speakers, which has the most neutral, or unbiased (unprejudiced), point of view?

Speaker 5 is the most neutral.

- d. Match the five speakers with who you believe they are. Draw a line to match speakers in column 1 with societal positions in column 2.

Speaker	Societal Positions
1	<p>citizens business developers government officials</p>
2	
3	
4	
5	

Section 3: Activity 2

1. Following is a retrieval chart in the shape of a pie. In each piece of the pie, organize the main ideas associated with the subsections within chapter 7 of your text.

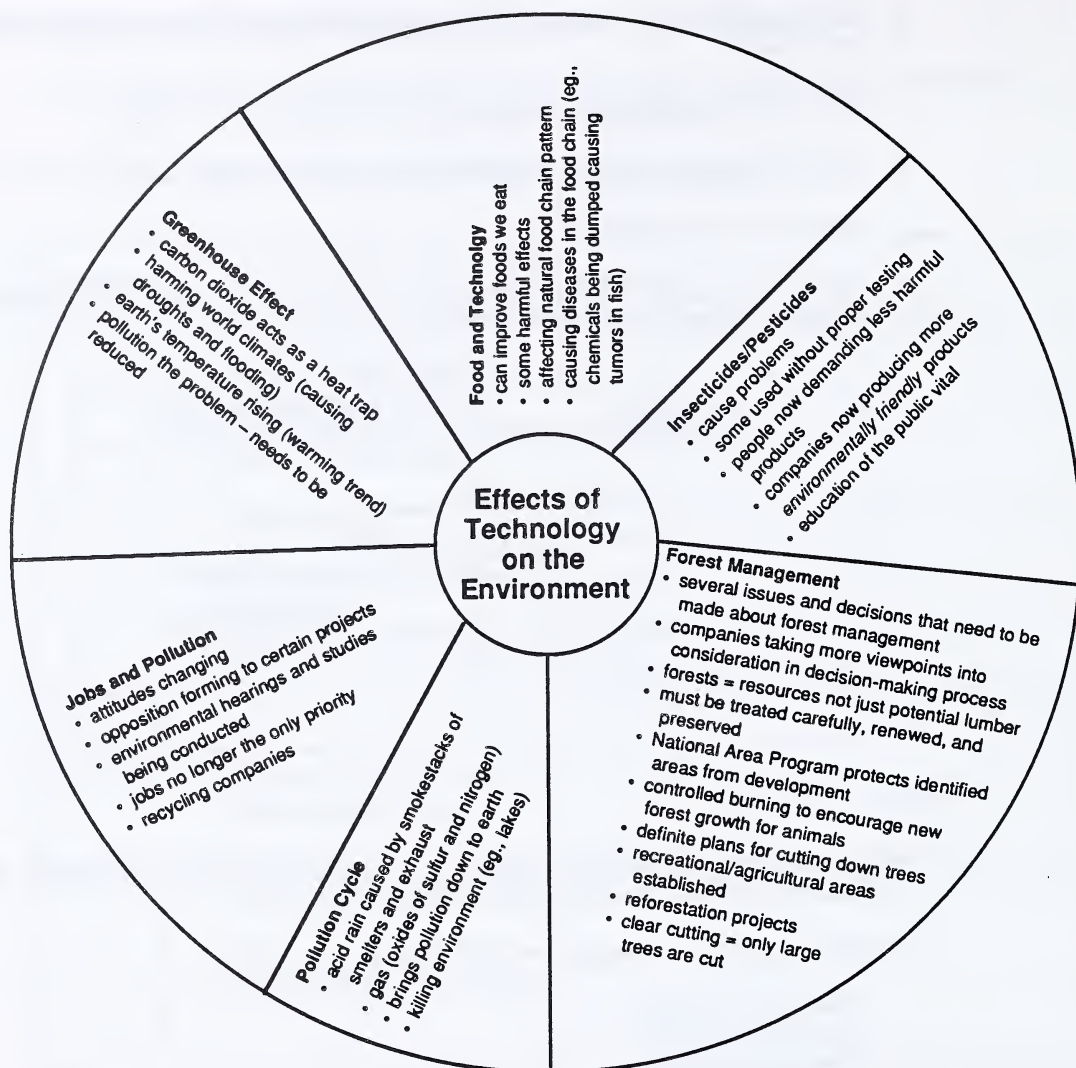
For example, the first three subsections of the chapter are

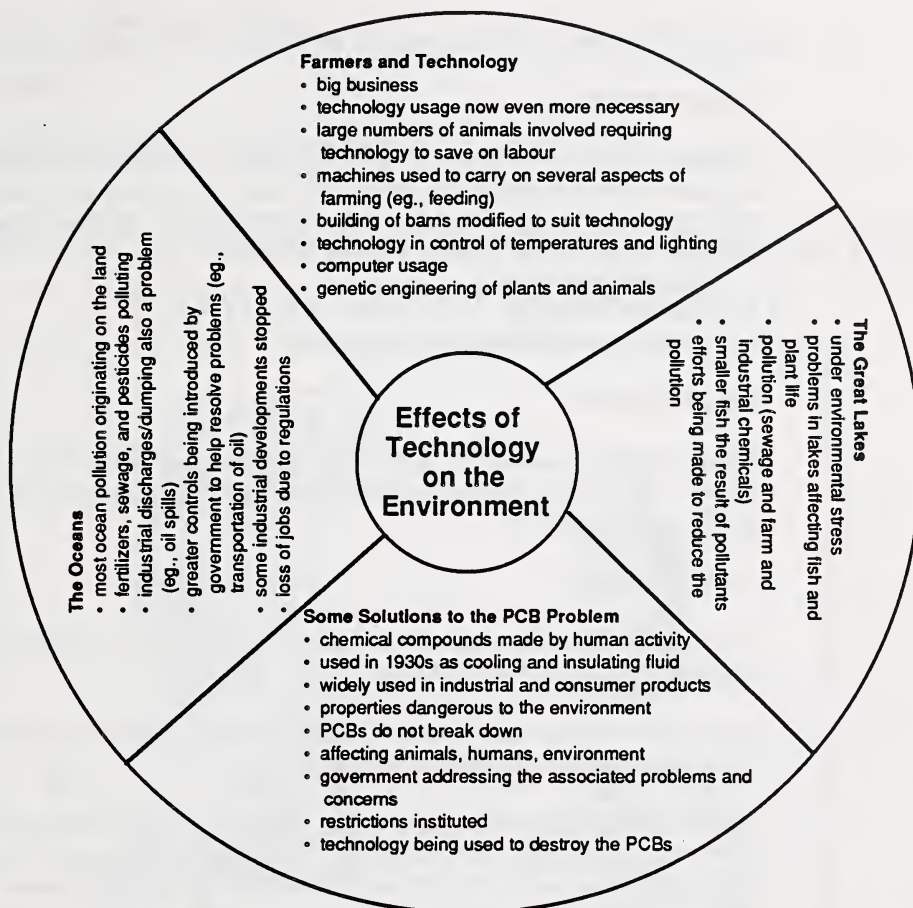
- Food and Technology
- Insecticides/Pesticides
- Forest Management

The first three pieces of the pie chart have already been divided for you. You will have to divide the rest of the chart according to the remaining subsections and fill in the essential ideas of each subsection.

Hint: record your information in point form and don't forget to continue labelling the main headings in your pie chart.

The answers in the pie chart will vary. Use the following example as a guide. Students may have more data in their charts.





2. Basing your work on what you have just read, answer the following questions.

- a. List and explain the examples of how we are using technology in ways that are less harmful for the environment.

Technology is being used to solve or reduce many environmental problems. The following is a list of some of the efforts being made to save the environment:

- conserving energy
- using energy-efficient appliances
- educating the public
- monitoring the ecology and environment better
- foregoing things we want in order to ensure the environment's survival
- recycling products
- burning PCBs at high temperatures in incinerators
- monitoring weather and soil conditions
- reclaiming lakes and land previously ruined
- producing safer chemicals

- b. Refer to the “Questions” section on page 107 of your text and complete questions 1 through 3.

Textbook question 1:

Pollution is affecting the natural cycle or food chain. The pattern of feeding relations has been altered between plants and animals. Because the chain has been altered, or broken, the entire ecosystem has experienced disastrous consequences. The examples provided by students may vary. The following are some possibilities:

- *fish with disease*
- *infected animal life*
- *plants containing dangerous compounds*

Textbook question 2:

Almost the entire Canadian life-style would be affected negatively. Water is the lifeline of survival. The absence of clean freshwater lakes would affect employment, agriculture, quality of life, and so on.

Textbook question 3:

Farmers are being encouraged to reduce the use of pesticides and fertilizers in order to decrease health hazards and pollution.

- c. In your own words, describe what you believe the relationship to be between the environment, technology, and quality of life?

Answers will vary. Students should suggest that there is a very close relationship between the environment, technology, and quality of life. All three are intertwined: When one is changed, the other two aspects are also affected. Check for an explanation.

3. Read the “Summary” section on page 107 of your text. Do you agree or disagree with what is said there? Explain your reasons.

Answers will vary, but students should support their positions.

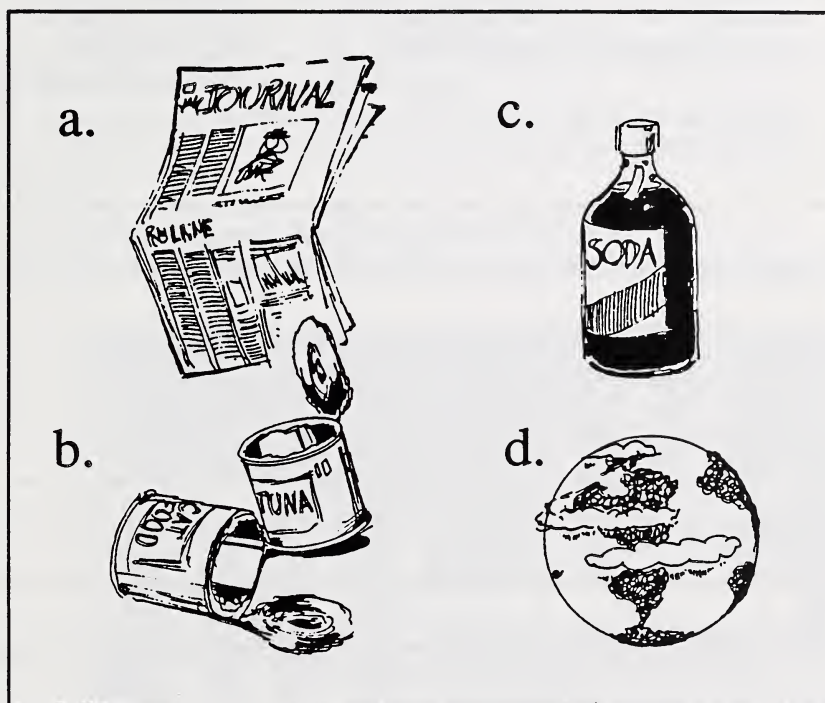
4. You have assessed a great deal of information in Section 3. Review the learning exercises for this section and, basing your ideas on the information you have gathered and analysed, make a concluding statement (or statements) about technology and the environment.

Answers will vary. The concluding statements should indicate that a number of aspects of technology are adversely affecting the environment, but that measures are being made to correct these environmental problems and concerns. Many people are working to turn this situation around. Programs including such things as recycling and energy conservation have been put into place to solve problems. Technology is now being used to fight the environmental crisis.

Section 3: Follow-up Activities**Extra Help**

1. Examine the political cartoon that follows.

Which of the following things that we use everyday cannot be recycled?



1

Explain in your own words the message that is being conveyed in the cartoon.

The cartoon's message is that if we destroy our world through lack of environmental concern, we won't get a second chance. If we fail to recycle things that can be reused, it might soon be too late to undo the damage.

¹ The Calgary Herald for the cartoon, July 17, 1990. Reprinted by permission of The Calgary Herald.

2. a. In part I of the chart that follows, identify six or seven positive and negative examples of the impact of technology on the environment.

	Positive	Negative
I	<ul style="list-style-type: none"> • <i>recycling</i> • <i>reclaiming ruined lakes and land</i> • <i>monitoring weather</i> • <i>irrigation</i> • <i>helping nature (e.g., producing moisture)</i> • <i>using environmentally friendly products</i> 	<ul style="list-style-type: none"> • <i>chemicals in food chain</i> • <i>dumping industrial wastes</i> • <i>over-logging of forests</i> • <i>acid rain</i> • <i>depletion of resources</i> • <i>destruction of lakes</i> • <i>poisoning of fish, animals, and plants</i>
II	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

- b. In part II of the chart, pick one of your examples from each column and explain how this aspect has had an impact on the environment.

Answers will depend on which examples the students select. Check for explanations.

3. Complete the concept review crossword puzzle that follows. All of the terms are from Section 3 of the first module.

Clues

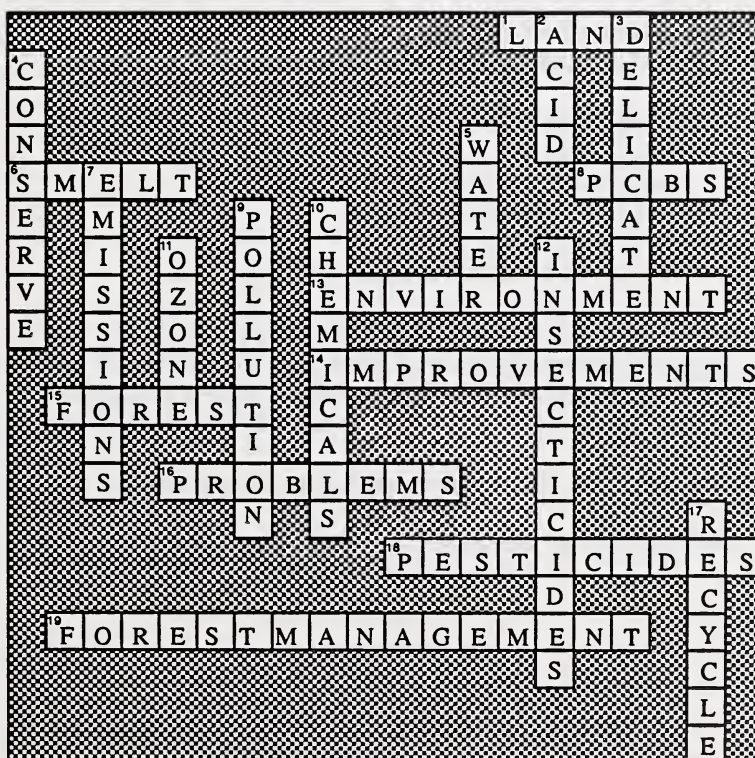
Across

1. the solid part of the earth's surface: dry ground, soil
6. melt ore
8. poisonous organic compounds or elements that are associated with industrialization
13. all the surrounding conditions that affect the development of a living thing

14. better conditions
15. a large area of land that is covered with trees, thick woods, or woodland
16. questions; matters of doubt or difficulty that need to be solved
18. chemical agents that are used to destroy plant or animal pests
19. the process whereby decisions are made as to how forests will be used, renewed, and preserved

Down

2. a harsh substance that can contaminate other compounds such as rain or snow
3. having a fine quality – easily broken or destroyed
4. to protect from harm, loss, or being used up
5. the liquid that falls to the earth and makes up seas, lakes, and rivers
7. gases that enter the air and can be harmful
9. something that is impure or unclean and negatively affects the environment
10. substances used in the production of many materials, such as fertilizer, but which may be harmful
11. the layer of atmosphere or oxygen that surrounds the planet Earth
12. chemicals or substances that are designed to kill insect life
17. to take something that may have already been used once and process it again for use



Enrichment

1. Before viewing the video presentation, consider what you already know about recycling. Indicate a few things you know about the topic in the space provided.

Answers will vary.

2. Watch the videotape *Great Expectations: Recycling in Alberta*. As you are viewing the video presentation, jot down any information in point form that you consider to be important. You may also wish to include any personal reactions or feelings that occur to you as you are viewing the presentation.

Answers will vary. Students should be encouraged to make notes in point form.

3. The topic of recycling is complex and interesting. Based on the videotape you have just seen, what conclusions can you make about environmental waste and recycling?

Answers will vary. Students should conclude that recycling is a method whereby technology helps to reduce pollution. The use of recycling has had an impact on the survival of the environment.

4. It is said that actions speak louder than words. Make a list of what you can do in your day-to-day life to reduce waste and help the environment.

Answers will vary. Here is a possible list:

- *recycling items*
- *using environmentally friendly products*
- *organizing clean-up campaigns*
- *writing letters to politicians*
- *conserving and using new forms of energy*

5. Refer to the political cartoon contained in the Extra Help activities. A political cartoon is one method of conveying a statement about an issue in a humorous manner. Sometimes these cartoons can become very thought provoking. Draw a cartoon of your own (it may be political in nature) about environmental issues having to do with waste and recycling.

Remember, you want to convey a serious message to the viewer.

Answers will vary. Have students explain their cartoons.

Section 3 Assignment

Refer to the section entitled “Possibilities” on page 108 of *Canadians Responding to Change*. Carefully read “Possibilities” 1 and 2. Your assignment is to select one of the two “possibilities” and to follow its instructions.

Be sure that you carry out only one of the “Possibilities” choices. Remember to indicate on your response page which assignment you have chosen to do.

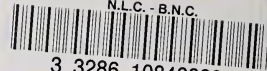
Possibility I

Answers will vary. Ensure that students have carried out research. In the letters, students should comment on specific environmental and technological concerns. Their letters should include the changes that they would like to see happen to reverse the situation. Students should offer constructive criticism and suggestions.

Possibility II

Answers will vary. Ensure that students write scenarios about what the world will be like in a hundred years if the problems with the environment are not dealt with properly. The assignment may include artwork.

N.L.C. - B.N.C.



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